the gladiolus by direct violence. Reduction of the fragments could not be obtained without direct operative measures, until on the third day while coughing the bone suddenly snapped forward into place, from which time he made a rapid and complete recovery.

Lyman's case was a brakeman who suffered a dislocation of the gladiolus behind the manubrium from a fall upon his chest. While the surgeon was manipulating the fragments in his endeavor to reduce them, the patient gave a slight cough which caused prompt reduction. —*Boston Med. and Surg. Jour.*, April 12, 1888.

JAMES E. PILCHER(U.S.Army.)

**V. On Old, Badly Healed Fractures of the Patella.** By P. BRUNS (Tuebingen). The doctor opposes the opinion, prevalent in most text-books, that the length of the fibrous bands uniting the fragments stands in direct proportion to the functional disturbance of the part. The latter is known to be, occasionally, more severe when the band is short than when it is very long. The author in this connection recapitulates from literature the cases in which the fragments were separated from 10 to 20 cm. with good functional powers. This fact, in connection with the observations that fractures of the femur with shortening and rupture of the quadriceps muscle and of the ligamentum patellæ, never lead to an impairment of muscular power, also demonstrate that in so-called "badly healed fractures of the patella," the cause of functional disturbance must be looked for in another direction. In these cases the muscular power regulates itself according to the new anatomical conditions imposed; the muscular fibres contract and shorten, and the lengthened, or, as it were, the relatively lengthened muscle regains its former tension in the state of contraction. How, then, must those cases be explained in which, with little separation of the fragments, stiffness in the joint, insufficient extension and unsteady gait supervene? Some authors (Malgaigne) have sought an explanation for this in the atrophy and consecutive insufficiency of the muscle, as already stated. It is quite true that during the treatment, caused by inactivity, atrophy of the muscles, especially of the extensor muscles, is always observed, but this disappears again

as soon as the movements of the limb are resumed, and only remains permanent when anatomical and mechanical hindrances are present. Bruns finds two other causes for the bad results in such cases. Either fibrous union has failed to occur at all, or the upper fragment has become attached to the femur. In three cases in the author's experience these conditions have prevailed, and in two of these operative interference restored the normal function of the limb. Of these two conditions a failure to unite is the most frequent, and in such cases the separation of the fragments must not necessarily be very large; on the other hand, a separation of over 4 cm. is not, as Adams has asserted, invariably followed by non-formation of an intermediate fibrous band. The latter, Bruns thinks, is the result of an unfavorable position of the fragments (tilting), or the interposition of parts of the fibrous expansion of the quadriceps, enveloping the patella. Another cause is refracture of the patella in the fibrous band, which does not again unite. Occasionally in these cases the action of the quadriceps is extended to the tibia by the fascia lata, the ligaments at the sides of the joint, or by bands running from the external and internal vastus to the lower fragments. Regarding the union of the upper fragment to the femur, the author found it to depend in his case upon the interposition of parts of the fibrous investment of the patella, which covered the fracture surface of the upper fragment and became adherent to the adjacent parts of the capsule of the knee-joint.—*Beitrage zur klinischen Chirurgie Mittheilungen aus der Chirurg. Klinik zur Tuebingen.* Bd. iii., hft 2.

**VI. Treatment of Fracture of the Patella and its Results.** By DR. ERNST BECK (Tuebingen.) On the basis of 28 cases at the Tuebingen clinic, the author discusses the question, whether the suture of the patella after Lister, or the bloodless methods with retentive dressings simply, ought to be practiced in general, a question which has lately been answered in different ways. At the outset he considers the well-known data regarding the causation of these fractures, the preponderance of the male sex, the great frequency of transverse fracture and the usual separation of the fragments of several inches. In three